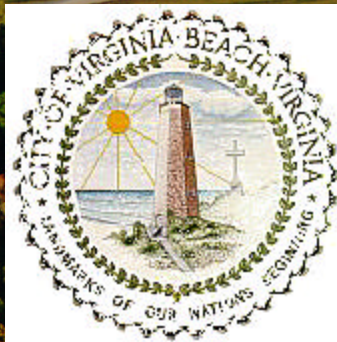


Lake Gaston Water Supply Project

FERC Settlement Agreement
RRBAC – July 23, 2003



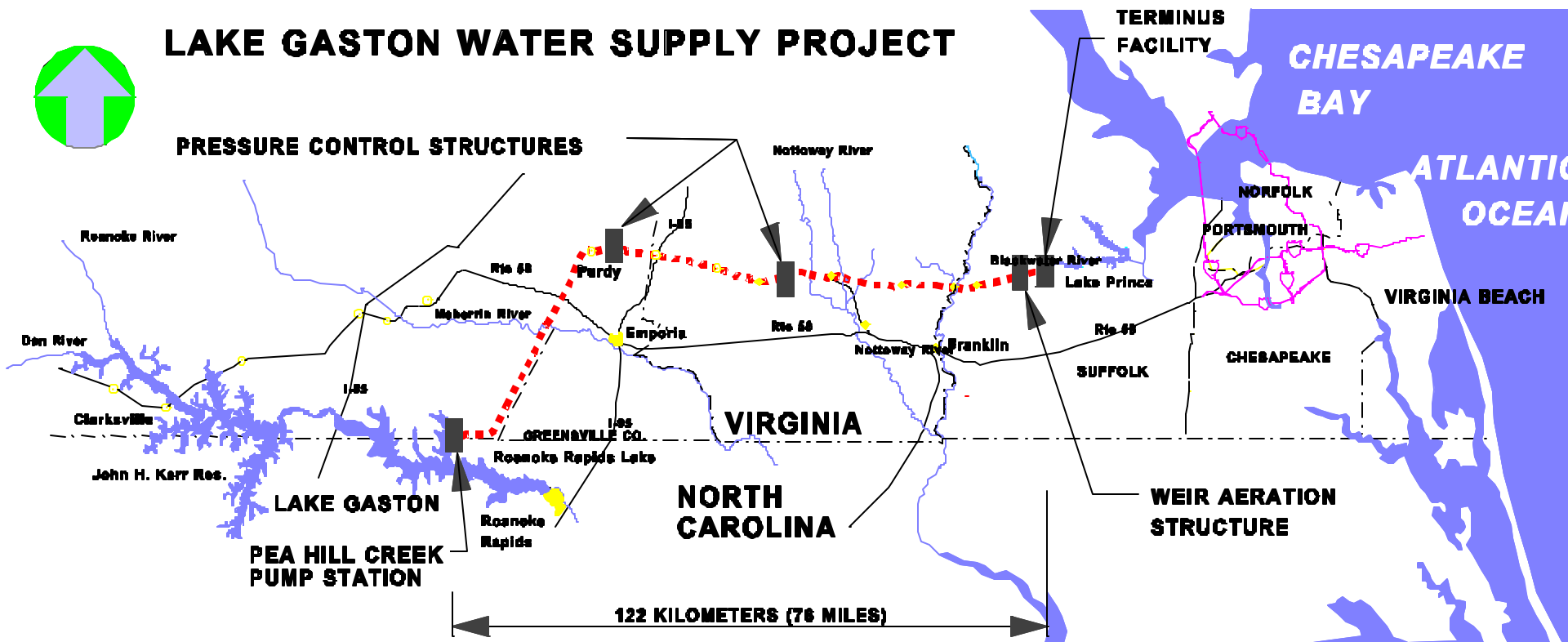


Project Components

- Pump station and intake
- 76 miles (122 Km) of 60 inch pipeline
- Six river crossings
- Three pressure control structures
- Eight tunneled road/RR crossings
- 52 other road crossings
- Terminus

Project Location....

- Pump station- 125 miles west of Virginia Beach on the Pea Hill Creek tributary of Lake Gaston
- 64 of 76 miles of pipeline are within a Va. Power ROW or an abandoned railroad ROW



Pump Station

- Licensed to withdraw a maximum of 60 mgd
- 7,000 square foot facility
- Flooded wet well
 - Bottom is 35 feet below normal pool level of lake
- 6 vertical turbine pumps
 - 5 dual speed
 - 10 mgd @ low speed (900 rpm, 500 hp)
 - 15 mgd @ high speed (1200 rpm, 1250 hp)
 - 1 constant speed
 - 4-8 mgd (1200 rpm, 250 hp)

Pump Station Construction:



Wet well construction [elev. 165]



Vertical Turbine going in



Dual speed Motor installation



Final site work [elev. 215]

Intake

- **No. Of Tee Screen Assemblies: 4**
- **Type:** continuous slot wedge-wire
- **Dimensions (ea. Screen):** 7 ft. Diameter by 14 ft. Long screen element
- **Slot opening width:** 1.0 mm
- **Max. Velocity through slot :** 0.5 ft. Per second



Aesthetics at the Pump Station

■ Noise reduction

- Flooded wet well with submerged vertical turbine pumps
- Motors are quietest available for size/type
- Interior of PS lined w/special sound reducing concrete block

■ Visual

- Lake view resembles up-scale house
- Landscaping
- Intake screens do not disturb water surface

Completed Pump Station



FERC Relicensing of Lake Gaston

- The final regulatory action which cleared the way for the Gaston pipeline was an **amendment** to Dominion Power's FERC license to operate Lake Gaston
- That 50-year license expired in 2001. The process to renew the license began shortly after FERC granted approval for the water withdrawal in 1995

VA Beach Proffers to the FERC

- In order to facilitate the FERC approval of the City's pipeline project in 1995, VA Beach made a number of proffers to that agency
- The proffers were taken from the failed settlement agreement with North Carolina
- FERC declined to make the proffers binding, but warned VA Beach to be ***"true to its word."***
- Since 1995, VA Beach has implemented the proffers as if they were traditional regulatory obligations

The FERC Settlement Agreement

- Dominion and all of the stakeholders in the relicensing process have been working towards a settlement agreement for five years
- This settlement agreement identifies license conditions and other agreements among the parties that satisfy most, if not all, of the stakeholders
- If accepted by the FERC, a new license would issue consistent with the agreement, and litigation would (presumably) be avoided

The FERC Settlement Agreement

- A primary objective of NC and other key stakeholders has been to have the 1995 proffers included in the settlement agreement
- For its part, VA Beach indicated that it would support this objective

The FERC Settlement Agreement

- The parties include Dominion, North Carolina, Virginia, USFWS, NMFS, TNC, VA Beach, RPLG, RRBA, LGA and others
- The agreement has 7 articles dealing with flow, 2 dealing with fisheries, 4 dealing with the lake (water levels, shoreline management, etc.) and 3 dealing with recreation and historic resources

Drought Management

- Article FL6 addresses management of interbasin transfers during critical droughts
- Other articles impact other stakeholders during critical droughts
- Dominion's ability to generate hydro-power will be reduced (peaking and base generation)
- Lake residents will see lower water elevations
- River rafting and canoeing will be impacted
- Minimum instream flows will be reduced

Article FL6 – Drought Response

- Initially, it applies only to SEVA Users (i.e., communities that get water from the pipeline)
- VA and NC agree that similar obligations are appropriate for future or expanded transfers
- Drought restrictions on SEVA Users can be no more than what North Carolina imposes upon its new or expanded transfers from the Roanoke
- Roanoke Rapids and Henderson will likely qualify at some point. Raleigh-Durham and/or Greensboro certainly will if or when such projects ever happen

Article FL6 – Drought Response

- Critical Drought - A drought in the Roanoke River Basin with a minimum return period of 20 years
- Used as a trigger for minimum conditions when conservation measures may be imposed
- Consistent with what VA Beach proffered
- As a practical matter only three droughts in the last century would be expected to trigger action (1930-31, 1980-81, 2001-02)

Critical Drought and Drought Response

- NCDENR and VDEQ may jointly declare a critical drought
- If they do, NCDENR may call for certain water conservation measures
- If VDEQ does not agree, NCDENR may still impose conservation measures, but not stricter than what it imposes on NC water systems that use interbasin transfers from the Roanoke
- USACE may override NCDENR and VDEQ
- Process for declaring end to the drought is similar

Water Conservation Measures

- Use all water supply sources within jurisdiction limits to the maximum extent practicable
- Use all alternative sources that can be obtained, consistent with good utility system practices, at a cost of not more than 20% of the price charged to wheel and treat Gaston water
- Use any emergency/conjunctive use groundwater that is practically and economically available
- Implementation of conservation measures to reduce water demands (VA Beach Ordinance)

Article FL6 – Other Provisions

- All other proffers VA Beach made to FERC
- \$200,000 annual payment for Hydrilla control– ***Adjusted for Inflation***
- No export of Gaston water outside of SE VA
- No party may receive water from the Gaston pipeline until that party agrees in writing to be bound by Article FL6

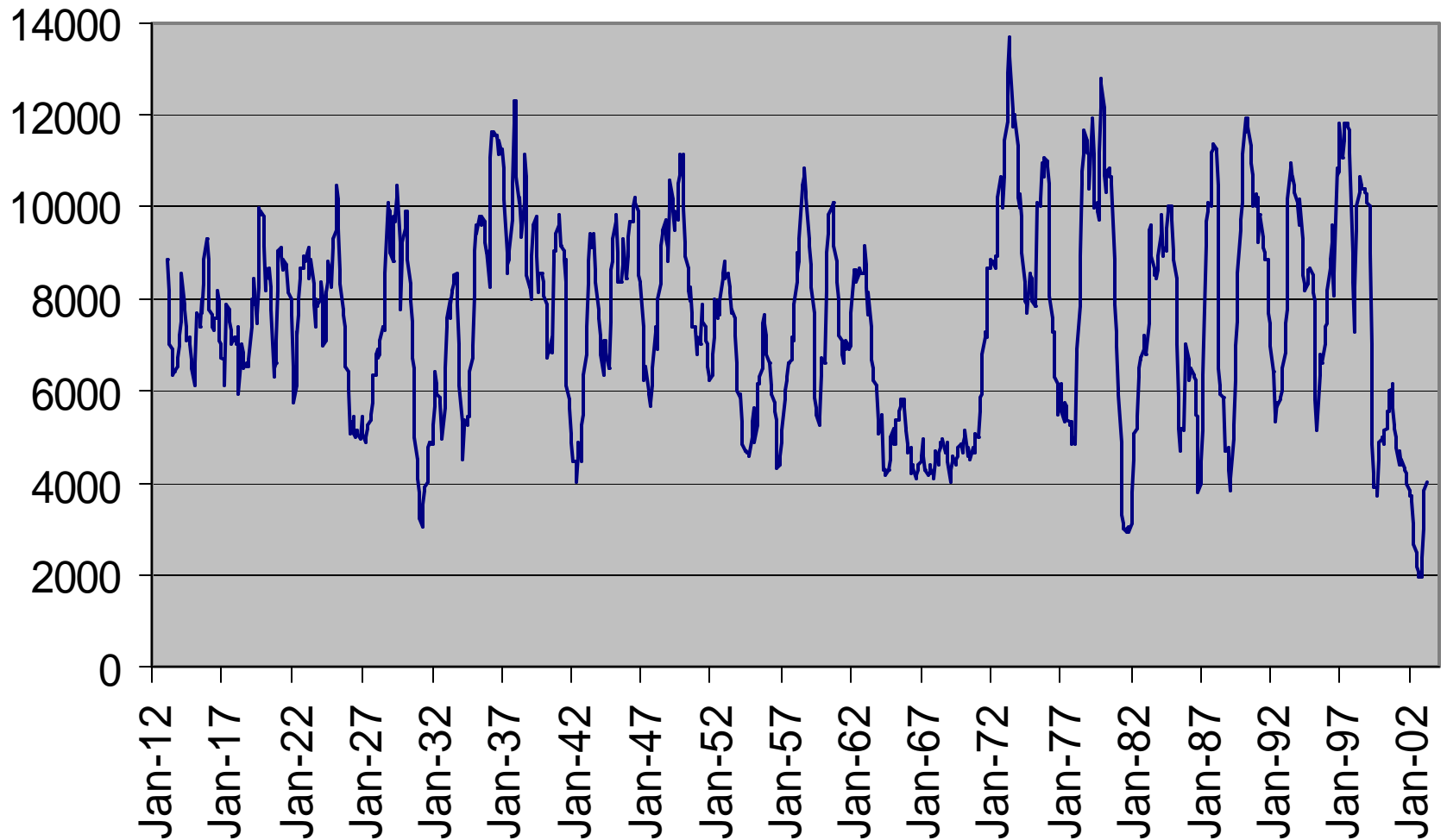
Article FL6 – Other Provisions

- Gaston pipeline limited to 60 mgd
- Use of storage for striped bass spawning
- Maintain an active conservation program
- Commitment to regional conservation
- No interference with alternative water supplies
- No interference with land/lake use activities

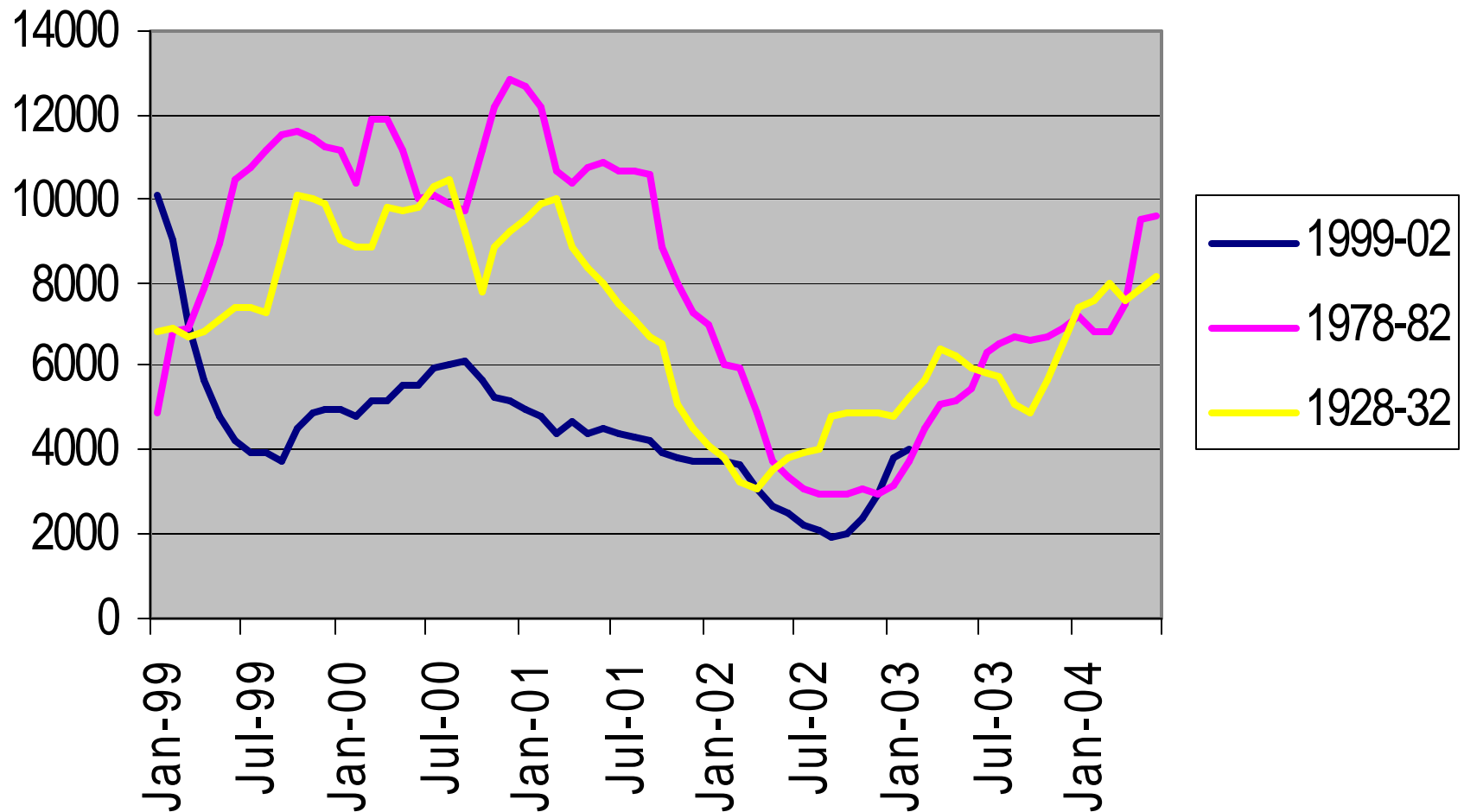
In Conclusion

- The obligations in the settlement agreement are substantially equivalent to what the City proffered, to its conduct since 1995, and to its response to the 2001-02 drought of record
- It is the recommendation of the staff that the City Council authorize the City Manager to execute the multi-party FERC settlement agreement on behalf of VA Beach

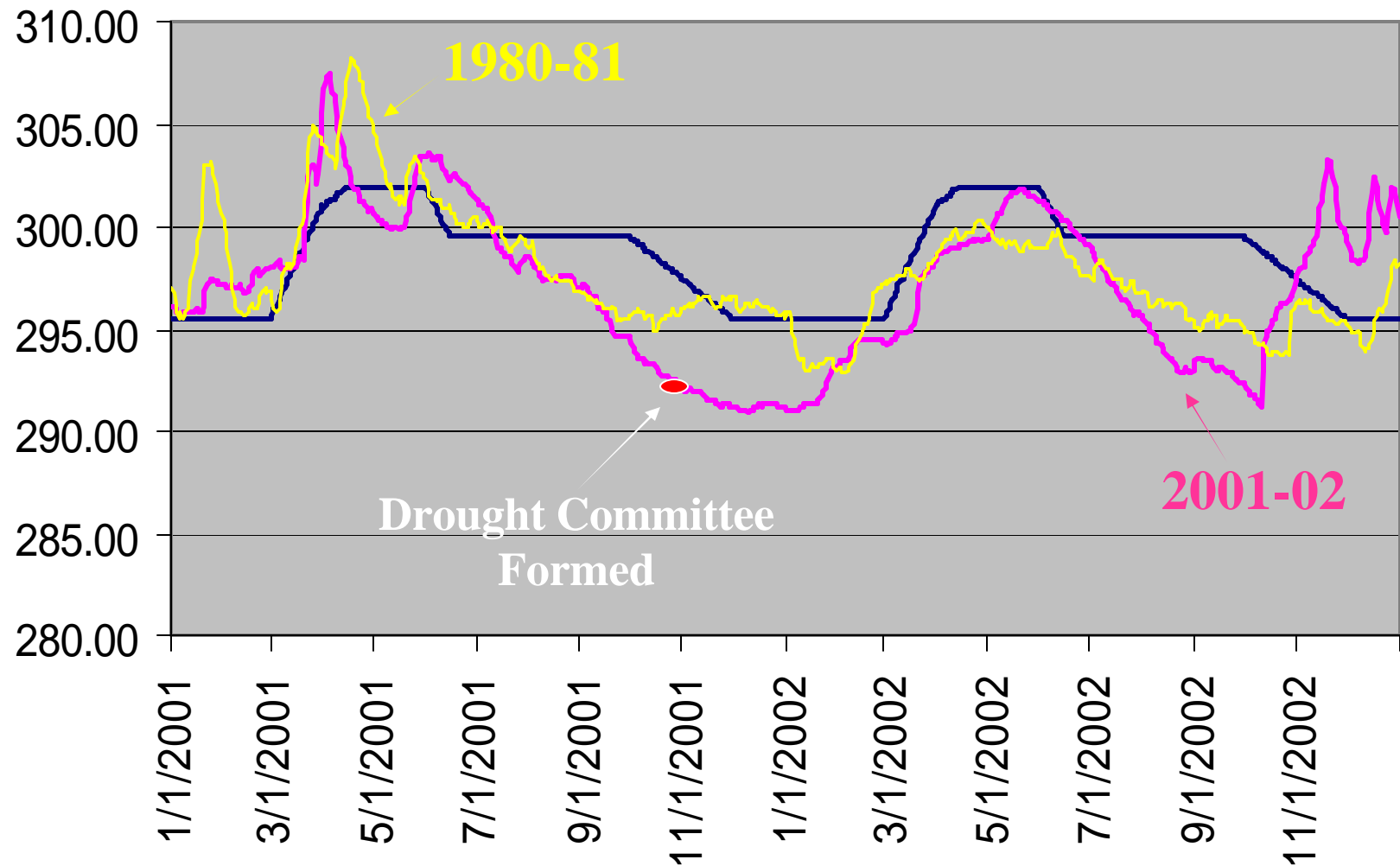
12-Month Average Inflow to Kerr Reservoir (cfs) 1912 -2003

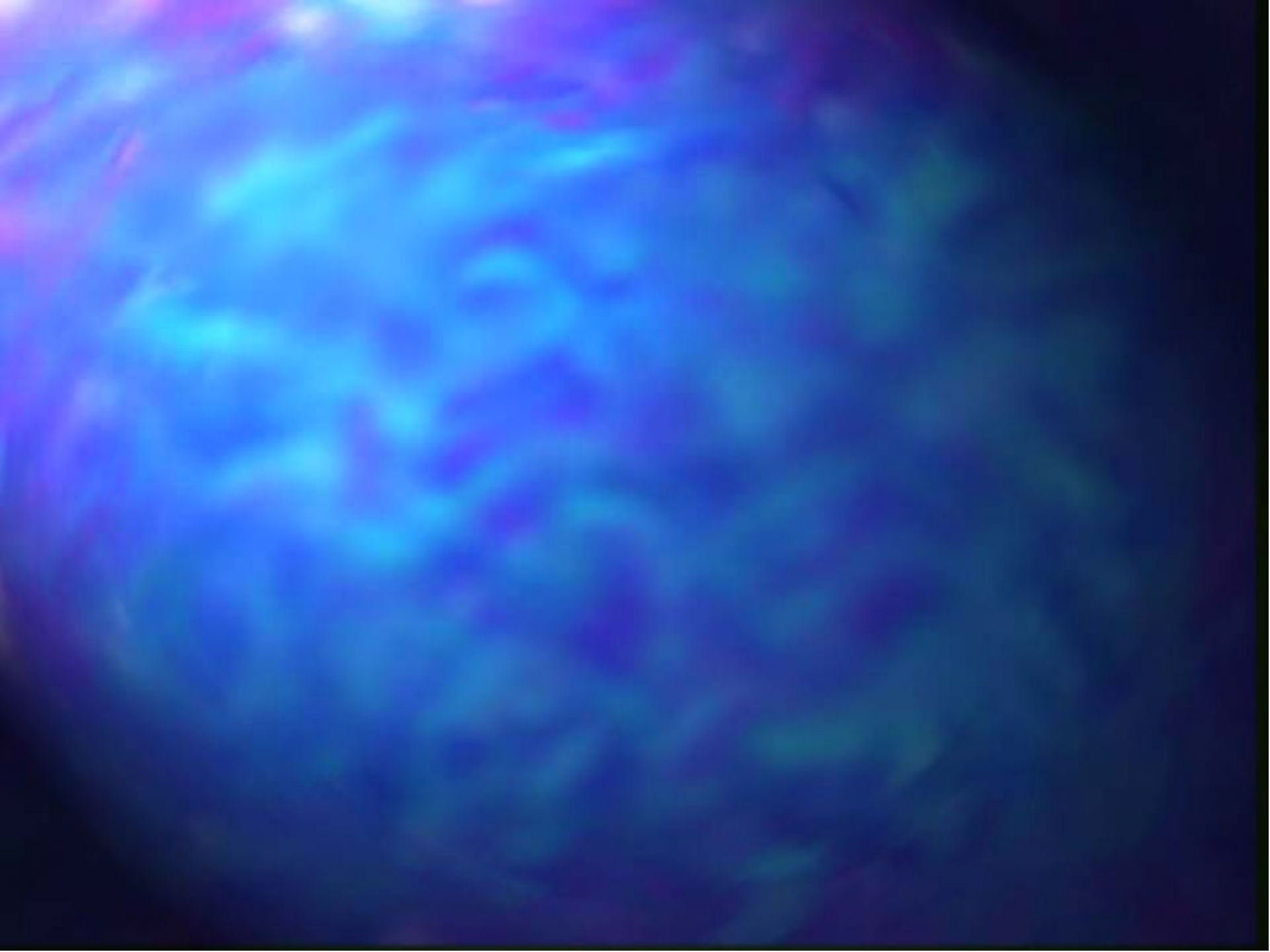


12-Month Average Inflow to Kerr Reservoir



Kerr Reservoir Lake Levels 2001-02





Gaston Costs vs Desalting

	Lake Gaston W/Norfolk Treatment	Norfolk and Seawater Desalting	Seawater Desalting
Total Annual Cost	\$40 million per year	\$66 million per year	\$82 million per year
Total Water Cost	\$2.79 per 1000 gals.	\$4.61 per 1000 gals.	\$5.69 per 1000 gals.